

Africanized Bee Situation Report

UDAF Plant Industry, Aug 18, 2009

Background

UDAF has monitored for the AHB since its advance from Texas in the 1990's. Late in 2008, seven colonies sampled were determined to be Africanized. Some of these were in managed beekeeping operations and some were caught in our bucket traps. In 2009, UDAF released this information to the public, and revitalized education efforts throughout Utah to inform the public about AHB risks. UDAF also expanded survey and trapping in Washington County, sampled many feral colonies, and contacted pest controllers and the fire department to make sure colonies discovered are sampled and tested to determine the extent of AHB populations in Washington, Iron and Kane Counties.

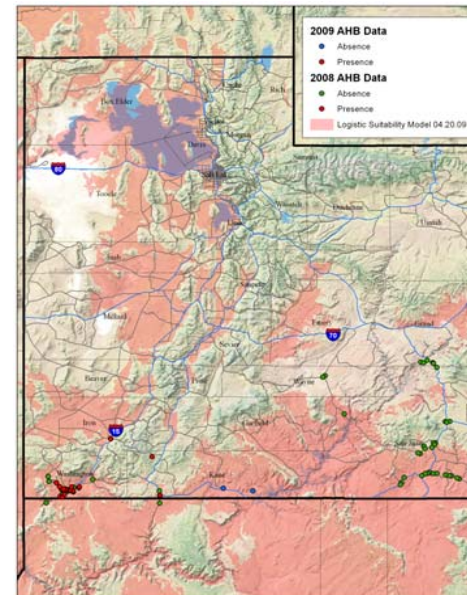
It should be noted that there are many managed bees in these areas, with 22 registered beekeepers in Washington, Iron and Kane Counties. These bees (nearly 1000 colonies) and beekeepers are the best way to maintain European bee stock in habitat that would otherwise be colonized by AHB. UDAF works with these beekeepers to encourage best management practices, locate and sample feral hives, destroy Africanized colonies and relocate European colonies that become feral.



Biology

The Africanized bee sting is the same as the European bee sting. Its lifestyle is almost identical, but it will live in smaller cavities with little or no insulation, it has smaller colonies and it reproduces faster, by producing multiple swarms all season (one colony can produce up to 20 swarms). Most importantly, these bees are much more aggressive to defend their nests which can result in massive stinging events.

Suitable Habitat Model



Currently NASA is gathering data to model and map suitable habitat for AHB spread throughout the USA. Our Utah data is contributing to the model, and we are using the model to choose our trap locations. The red areas are calculated to be suitable habitat for AHB.

Cooperators

Sample collection, trapping and monitor, public outreach:

Jeremy Peterson, St. George Ag Inspector; St. George Fire Department and Public Works; Pest Controllners; Utah Beekeepers Association and local beekeepers in Washington, Iron and Kane Counties.

Determination of AHB/ EHB: USDA-ARS Tucson Bee Lab; University of Arkansas Social Insects Genetics Lab.

Model and map suitable AHB habitat: NASA.

Data Collected

UDAF has established over 40 bee traps, most in Washington County. The trap is a fiber bucket, hung in a tree, with pheromone that is attractive to bees. This trap does not catch individual bees, but a swarm looking for a home which moves in and builds comb. These traps have caught 15 colonies this year, 10 Africanized, 4 European and 5 yet to be determined. We have also sampled 60 feral colonies, 34 of which have tested Africanized. Most of these colonies have been found in and around St. George, but also in Cedar City, Parowan, LaVerkin, Beryl, Modena and Kolob. All but one colony have been discovered within the predicted habitat range. The exception is a colony found in a cabin on Kolob Mountain, probably transported by a beekeeper.

<u>Colonies trapped</u>	<u>#Africanized</u>
15	10
<u>Feral samples</u>	<u>#Africanized</u>
60	34

Africanized colonies have been discovered within the predicted migration corridor in colder areas: Cedar City, Parowan and Kolob.



Feral colonies have also been found outside that corridor near Kanab and Big Water. For this reason, more traps will be set in Iron and Kane Counties to determine the extent of AHB spread. Our samples are also submitted for genetic testing to distinguish separate populations of Africanized bees within the US. This project, at the University of Arkansas, could indicate the source of AHB found in Utah and show whether there have been multiple introductions or natural migration.

In addition to this data, there are at least 25 additional samples for which we are awaiting results. Last year our bee traps caught bees through early November, and feral colonies were discovered in trees as leaves fell. For this reason, we expect to collect many more samples this year.

Impact

The advent of AHB discovery in Utah was awaited with trepidation, for fear of public panic and backlash against beekeepers and beneficial insects. To date this has not been the case. Public cooperation has been outstanding, including the support and assistance of beekeepers, pest controllers, firefighters and concerned citizens. Fortunately, few of the Africanized colonies encountered have been extremely aggressive. Even so, they are unpredictable and reproduce quickly, so Africanized colonies in our traps have all been destroyed. Feral colonies determined to be Africanized are strongly recommended to be destroyed (see attached letter example). Colonies determined to be European have been given to beekeepers to adopt whenever possible.

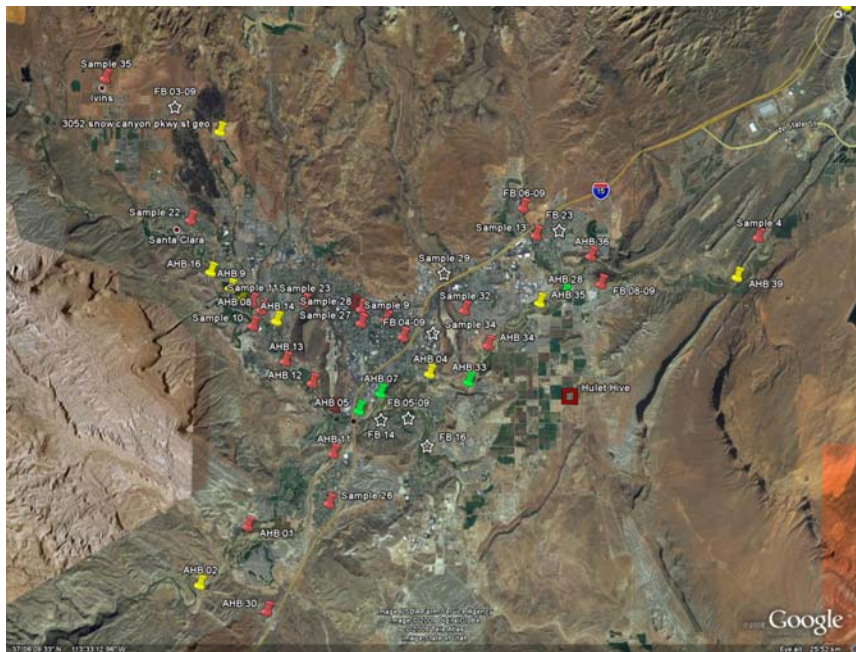


Plan of Action

UDAF will continue to collect samples

from traps and from feral colonies wherever possible. More traps will be set in Kane and Iron County. Traps will also be set to monitor San Juan and Garfield Counties using the suitable habitat model. Current information will be released to the media and on our website, including answers to frequently asked questions about Africanized bees, honey bees in general and eventually information about the extent of the AHB population.

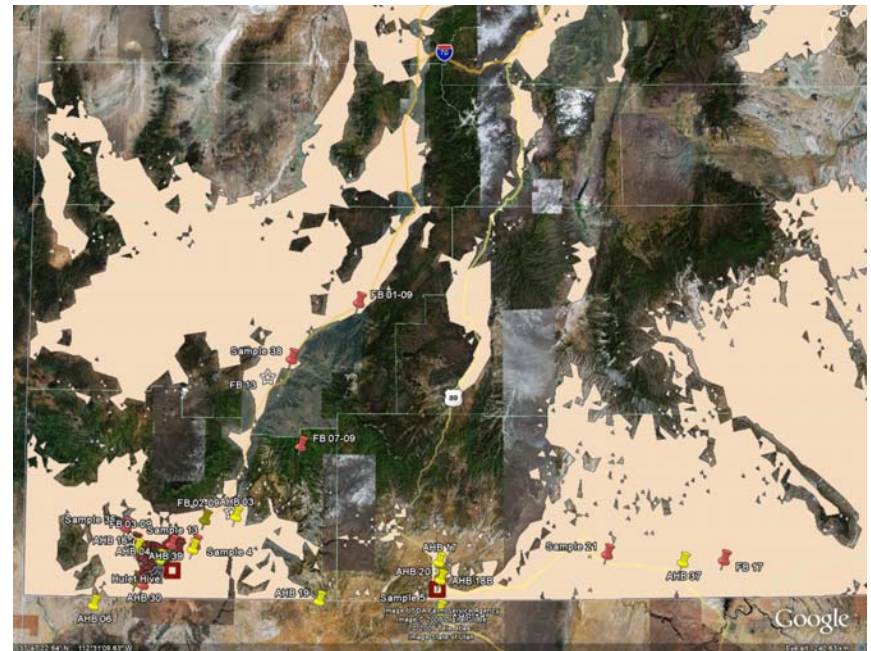
Africanized Bee Survey & Detection in St. George, Utah



Red pin = AHB, Green pin = EHB, Yellow pin = empty bee trap,
Red square = AHB in apiary

The Africanized bee has been found in and around St. George, particularly along waterways. Nearly 30 colonies have been found in Washington County.

Africanized Bee Detection & Suitable Habitat



Red pin = AHB, Green pin = EHB, Yellow pin = empty bee trap,
Red square = AHB in apiary, shaded area = suitable habitat model

Southern Utah is predicted to have large areas of habitat suitable to Africanized bees using the NASA model.

From: Jeremy Peterson
To: kim_jeany@blm.gov
Date: Monday - June 22, 2009 9:52 AM
Subject: Africanized Honey Bees at Shinob Kibe

Kim,

The Utah Dept. of Agriculture and Food sampled a feral colony of honeybees at N 37.11446, W 113.49039, which is on the southwest side of Shinob Kibe, approximately 200 meters inside the fence line dividing BLM land from private property. These samples were sent to the entomology lab at the University of Arkansas and subjected to DNA analysis and were confirmed to have Africanized Honey Bee (AHB) genes.

Heavy foot traffic is unlikely in the ravine they're located at--and vehicle traffic impossible, given the terrain--so there are no immediate threats to the public except for the occasional hiker. We were, in fact, informed of this colony's presence by a local resident who hikes the hill.

However, AHB tend to swarm much more frequently than their European Honey Bee (EHB) cousins--potentially as many as 20 swarms per season. Swarms will send out scouts to identify new potential hive sites and most swarms will not likely travel more than 3-5 miles; often much shorter distances. Given the proximity of private land now being subdivided, the potential for multiple colonies eventually taking up residence in attic crawlspaces, irrigation/water meter boxes, landscaping features, hollow columns or any other feature which provides a small access hole and a large cavity behind it is great.

The UDAF, therefore, strongly recommends the elimination of AHB colonies wherever they are found, on both public and private property.

Control options include:

1. Self-service removal involving the landowner/manager spraying out or sealing up entrances to the colony
2. Hiring a licensed pest control professional.
3. Hiring a licensed beekeeper, experienced in colony removal and re-queening of AHB colonies.

The UDAF maintains lists of licensed pest control companies and beekeepers on our website. You may learn more by visiting ag.utah.gov and clicking on the "Licensing," tab near the top of the page.

Thank you,

Jeremy Peterson
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